



PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Naoki Hanashima et al.  
 Application No. : 10/702,136  
 Filed : November 5, 2003  
 For : WAVEGUIDE-EMBEDDED OPTICAL CIRCUIT AND OPTICAL  
 FUNCTIONAL ELEMENT USED THEREIN

Art Unit : 2874  
 Docket No. : 890050.447  
 Date : April 5, 2004

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 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

## Commissioner for Patents:

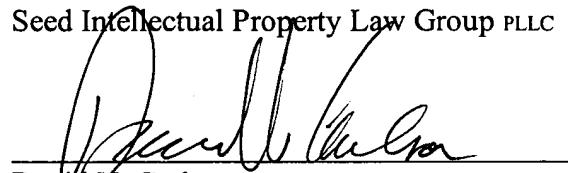
In accordance with 37 C.F.R. §§ 1.56 and 1.97 through 1.98, applicants wish to make known to the U.S. Patent and Trademark Office the references set forth on the attached form PTO-1449. Applicants note that since the application filing date is after June 30, 2003, copies of the cited U.S. patents and published patent applications are not required and accordingly have not been provided. Copies of all other cited references are enclosed. As to any reference cited, applicants do not admit that it is "prior art" under 35 U.S.C. §§ 102 or 103, and specifically reserve the right to traverse or antedate any such reference, as by a showing under 37 C.F.R. § 1.131 or other method. Although the aforesaid references are made known to the Patent and Trademark Office in compliance with applicants' duty to disclose all information they are aware of which is believed relevant to the examination of the above-identified application, applicants believe that their invention is patentable.

Please acknowledge receipt of this Information Disclosure Statement and kindly make the cited references of record in the above-identified application.

Applicants believe this Information Disclosure Statement has been timely filed, however, the Director is authorized to charge any fee due by way of this Information Disclosure Statement to our Deposit Account No. 19-1090.

Respectfully submitted,

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Enclosures:

Form PTO-1449  
Cited References (9)

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Sheet 1 of 1

FORM PTO-1449 (REV.7-80)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 890050.447	APPLICATION NO. 10/702,136
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		APPLICANTS Naoki Hanashima et al.	
		FILING DATE November 5, 2003	GROUP ART UNIT 2874

### U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
AA						
AB						
AC						
AD						
AE						
AF						

### FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES      NO
	10-068910	03/10/98	JP (+ Abstract in English)	
	10-339848	12/22/98	JP (+ Abstract in English)	
	11-119158	04/30/99	JP (+ Abstract in English)	

### OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

		Bakke, T. et al., "Vertically Tapered Core Polymeric Optical Spot-Size Transformer," <i>Electronics Letters</i> 37(24):1475-1476, November 2001.
		Bakke, T. et al., "Polymeric Buried Core Adiabatic Optical Spot-Size Transformer," <i>Electronics Letters</i> 38(7):319-321, March 2002.
		Mizuno, T. et al., "Low-Loss 1.5%-Delta Arrayed Waveguide Grating with Narrow Laterally Tapered Spotsizer Converter," <i>Electronics Letters</i> 37(24):1452-1454, November 2001.
		Mitomi, O. et al., "Design of a Single-Mode Tapered Waveguide for Low-Loss Chip-to-Fiber Coupling," <i>IEEE Journal of Quantum Electronics</i> 30(8):1787-1793, August 1994.
		Shani, Y. et al., "Efficient Coupling of a Semiconductor Laser to an Optical Fiber by Means of a Tapered Waveguide on Silicon," <i>Appl. Phys. Lett.</i> 55(23):2389-2391, December 1989.
		Spühler, M. et al., "A Very Short Planar Silica Spot-Size Converter Using a Nonperiodic Segmented Waveguide," <i>Journal of Lightwave Technology</i> 16(9):1680-1685, September 1998.

EXAMINER	DATE CONSIDERED

\* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).